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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Patent Application**

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| Inventor | : | **Alan Weir Bucher** |
| Serial No. | : | **09/900,369** |
| Filed | : | **July 6, 2001** |
| Title | : | **COLOR CATHODE RAY TUBE HAVING A DETENSIONING MASK FRAME ASSEMBLY** |
| Examiner | : | **Sharlene L. Leurig** |
| Art Unit | : | **2879** |

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Patricia A. Verlangieri

## APPELLANTS' BRIEF UNDER 37 C. F. R. § 1.192

On December 2, 2005, Appellants' filed a timely Notice of Appeal (that was received in the United States Patent and Trademark Office on December 2, 2005) from the action of the Examiner finally rejecting pending claims 1-13. The Appellants' herein file this Brief in accordance with 37 C. F. R. § 1.192.

## 1. IDENTIFICATION OF THE REAL PARTY IN INTEREST

The real party in interest for the above-identified application is Thomson Licensing S. A., which is the assignee of record for this application.

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## 2. IDENTIFICATION OF RELATED APPEALS OR INTERFERENCES

To the best of the Appellants' knowledge, there are no appeals or interferences that will be directly affected by, or will have a bearing on the decision of this appeal.

## 3. STATUS OF THE CLAIMS

Claims 1-13 are rejected and the rejection of claims 1-13 is appealed.

The above-identified application was filed on July 6, 2001. Claims 1-5 were pending.

A first Office Action was mailed November 19, 2002 (Paper No. **3**), in which claims 1-5 were rejected.

In Appellant's response to the first Office Action, dated February 19, 2003, claims 4-5 were amended and new claims 6-13 were added.

The Examiner in a second Office Action, mailed June 18, 2003 (Paper No. **5**), claims 1-13 were rejected.

In Appellant's response to the second Office Action, dated September 18, 2003, claim 1 was amended.

The Examiner in a third Office Action, mailed March 10, 2004 (Paper No. **0204**), finally rejected claims 1-13.

In Appellant's response to the third Office Action, dated May 4, 2004, claim 1 was amended.

The Examiner in an Advisory Action, mailed June 2, 2004 (Paper No. **0504**), did not enter Appellant's response to the third Office Action dated May 4, 2004, stating that Appellant's response raised new issues that would require further consideration and/or a search.

In response to the Advisory Action, Appellant's filed a Request for Continued Examination, dated September 2, 2004.

The Examiner in a fourth Office Action, mailed September 21, 2004 (Paper No. **0904**), entered Appellant's response to the third Office Action dated May 4, 2004 and rejected claims 1-13.

In Appellant's response to the fourth Office Action, dated March 18, 2005, claims 1-4 were amended.

The Examiner in a fifth Office Action, mailed June 6, 2005 (Paper No. **0505**), finally rejected claims 1-13.

The status of the claims is as follows:

Added claims 6-13. Once amended claims 2-3 and 5. Twice amended claim 4. Thrice amended claim 1.

## 4. STATUS OF THE AMENDMENTS

No amendments were made after final rejection. All amendments were entered.

## 5. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a tension mask frame assembly 10 for a cathode ray tube (CRT) 1. See Appellants' specification at FIG. 1 and page 1, lines 7-8. The tension mask frame assembly 10 includes a substantially rectangular mask support frame 20 having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other. See Appellants' specification at FIG. 2 and page 3, lines 20-25. The mask support frame 20 has a pair of opposing long sides 22, 24 extending in parallel to the major axis and a pair of opposing short sides 26, 28 extending in parallel to the minor axis each of the long sides 22, 24 and the short sides 26, 28 having an outer peripheral surface 23, 29 and an inner peripheral surface 25, 27. See Appellants' specification at FIG. 2 and page 3, lines 25-27. A tension mask 30 is supported between a pair of support blade members 40. See Appellants'

specification at FIG. 2 and page 3, lines 28-32. The support blade members 40 are attached to the frame 20 at attachment points 33 along a respective one of the pair of opposing long sides 22, 24. See Appellants' specification at FIGS. 3-7 and page 3, lines 31-33. A detensioning member 31, 32 is fixed along one of the outer 23, 29 and inner 25, 27 peripheral surfaces of one of the pair of opposing long sides 22, 24 and the pair of opposing short sides 26, 28. See Appellants' specification at FIGS. 2-7 and page 4, lines 4-23. The detensioning member 31, 32 has a second coefficient of thermal expansion such that attachment points 33 are drawn toward each other during thermal cycling of said mask frame assembly 11. See Appellants' specification at page 4, lines 12-21.

Independent claim 4 is directed to a cathode ray tube (CRT) 1 having a tension mask 30 and frame assembly 10. See Appellants' specification at FIG. 1 and page 1, lines 7-8. The tension mask 30 is mounted in tension on a substantially rectangular frame 20 having a first coefficient of thermal expansion. See Appellants' specification at FIG. 2 and page 3, lines 20-25. The frame 20 has a pair of opposing long sides 22, 24 and a pair of opposing short sides 26, 28 disposed at a right angle with respect to one another with each of said sides connected to from a continuous generally planar frame having an outer peripheral surface 23, 29 and an inner peripheral surface 25, 27. See Appellants' specification at FIG. 2 and page 3, lines 25-27. Detensioning members 31, 32 are fixed along the peripheral surfaces 23, 25, 27, 29 of the long sides 22, 24 and the short sides 26, 28. See Appellants' specification at FIGS. 2-7 and page 4, lines 4-23. The detensioning members 31, 32 have a second coefficient of thermal expansion that is one of greater than the first coefficient of thermal expansion and lower than the first coefficient of thermal expansion. See Appellants' specification at page 4, lines 12-30.

Independent claim 9 is directed to a cathode ray tube (CRT) 1. See Appellants' specification at FIG. 1 and page 1, lines 7-8. The CRT 10 includes a glass envelope 2, an electron gun 13 and a tension mask frame assembly 10. See Appellants' specification at FIG. 1 and page 3, lines 2-15. The glass

envelope 2 has a rectangular faceplate panel 3 and a tubular neck 4 extending from the rectangular faceplate 3 through a funnel 5. See Appellants' specification at FIG. 1 and page 3, lines 2-4. The electron gun 13 is centrally mounted within the tubular neck 4 for generating and directing electron beams toward a phosphor screen 12. See Appellants' specification at FIG. 1 and page 3, lines 11-15. The tension mask frame assembly 10 includes a substantially rectangular mask support frame 20 having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other. See Appellants' specification at FIG. 2 and page 3, lines 20-25. The mask support frame 20 has a pair of opposing long sides 22, 24 extending in parallel to the major axis and a pair of opposing short sides 26, 28 extending in parallel to the minor axis each of the long sides 22, 24 and the short sides 26, 28 having an outer peripheral surface 23, 29 and an inner peripheral surface 25, 27. See Appellants' specification at FIG. 2 and page 3, lines 25-27. A tension mask 30 is supported between a pair of support blade members 40. See Appellants' specification at FIG. 2 and page 3, lines 28-32. The support blade members 40 are attached to the frame 20 at attachment points 33 along a respective one of the pair of opposing long sides 22, 24. See Appellants' specification at FIGS. 3-7 and page 3, lines 31-33. A detensioning member 31, 32 is fixed along one of the outer 23, 29 and inner 25, 27 peripheral surfaces of one of the pair of opposing long sides 22, 24 and the pair of opposing short sides 26, 28. See Appellants' specification at FIGS. 2-7 and page 4, lines 4-23. The detensioning member 31, 32 has a second coefficient of thermal expansion such that attachment points 33 are drawn toward each other during thermal cycling of said mask frame assembly 11. See Appellants' specification at page 4, lines 12-21.

## 6. GROUNDS FOR REJECTION TO BE REVIEWED ON APPEAL

1. The Examiner has rejected claim 4 as indefinite under 35 U. S. C. § 112, second paragraph.

2. The Examiner has rejected claims 1, 3 and 6-8 as being anticipated under 35 U. S. C. § 102(b) by Kume et al. (U. S. 5,111,107).

3. The Examiner has rejected claims 1-2 and 6-13 as being anticipated under 35 U. S. C. § 102(b) by Ragland (U. S. 5,932,957).

4. The Examiner has rejected claims 4-5 as being anticipated under 35 U. S. C. § 102(e) by Van Der Wilk (U. S. 6,686,684).

5. The Examiner has rejected claims 9-13 as being unpatentable under 35 U. S. C. § 103(a) over Kume et al. (U. S. 5,111,107) in view of Ragland (U. S. 5,932,957).

## 7. ARGUMENT

1. Rejection of claim 4 as indefinite under 35 U. S. C. § 112, second paragraph

Claim 4

In Appellant's claim 4, a cathode ray tube (CRT) 1 having a tension mask 30 and frame assembly 10 is described. See Appellants' specification at FIG. 1 and page 1, lines 7-8. The tension mask 30 is mounted in tension on a substantially rectangular frame 20 having a first coefficient of thermal expansion. See Appellants' specification at FIG. 2 and page 3, lines 20-25. The frame 20 has a pair of opposing long sides 22, 24 and a pair of opposing short sides 26, 28 disposed at a right angle with respect to one another with each of said sides connected to from a continuous generally planar frame having an outer peripheral surface 23, 29 and an inner peripheral surface 25, 27. See Appellants' specification at FIG. 2 and page 3, lines 25-27. Detensioning members 31, 32 are fixed along the peripheral surfaces 23, 25, 27, 29 of the sides 22, 24, 26, 28. See Appellants' specification at FIGS. 5-7 and page 4, lines 4-23. The detensioning members 31, 32 have a second coefficient of thermal expansion

that is one of greater than the first coefficient of thermal expansion and lower than the first coefficient of thermal expansion. See Appellants' specification at page 4, lines 12-30.

The Examiner indicates that the phrase "detensioning members fixed along the peripheral surfaces of said sides" is unclear because it is not clear which peripheral surfaces of the sides have detensioning members affixed to them. Examples of the phrase "detensioning members fixed along the peripheral surfaces of said sides" are shown in FIGS. 5-7 and discussed on page 4, line 10 to page 5, line 33. The phrase "detensioning members fixed along the peripheral surfaces of said sides" is consistent with the examples disclosed in FIGS. 5-7. In particular, FIGS. 5-7 disclose that the detensioning members may be fixed to outer peripheral surfaces of the long sides (FIG. 5), outer peripheral surfaces of the short sides (FIG. 6), or outer peripheral surfaces of the long sides and inner peripheral surfaces of the short sides (FIG. 7). As such, Appellant's believe that the metes and bounds of the phrase "detensioning members fixed along the peripheral surfaces of said sides" are clear. Therefore, Appellant's submit that claim 4 is not indefinite.

2. Rejection of claims 1, 3 and 6-8 under 35 U. S. C. § 102(b) as anticipated by Kume et al. (U. S. 5,111,107).

Claims 1, 3 and 6-8

Kume et al. discloses a grid apparatus for a color cathode ray tube. See Kume et al. at column 1, lines 8-10. The grid apparatus has a frame 5 with support members 3, 4. See Kume et al. at FIG. 2 and column 2, lines 45-57. Metallic members 9 are attached to the underside of support members 3, 4 and have a higher coefficient of thermal expansion than that of the support members 3, 4. See Kume et al. at FIG. 2 and column 2, lines 56-64.

In Appellants' claims 1, 3 and 6-8 a tension mask frame assembly 10 for a cathode ray tube (CRT) 1 is described. See Appellants' specification at FIG. 1 and page 1, lines 7-8. The tension mask frame assembly 10 includes a substantially rectangular mask support frame 20 having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other. See Appellants' specification at FIG. 2 and page 3, lines 20-25. The mask support frame 20 has a pair of opposing long sides 22, 24 extending in parallel to the major axis and a pair of opposing short sides 26, 28 extending in parallel to the minor axis each of the long sides 22, 24 and the short sides 26, 28 having an outer peripheral surface 23, 29 and an inner peripheral surface 25, 27. See Appellants' specification at FIG. 2 and page 3, lines 25-27. A tension mask 30 is supported between a pair of support blade members 40. See Appellants' specification at FIG. 2 and page 3, lines 28-32. The support blade members 40 are attached to the frame 20 at attachment points 33 along a respective one of the pair of opposing long sides 22, 24. See Appellants' specification at FIGS. 3-7 and page 3, lines 31-33. A detensioning member 31, 32 is fixed along one of the outer 23, 29 and inner 25, 27 peripheral surfaces of one of the pair of opposing long sides 22, 24 and the pair of opposing short sides 26, 28. See Appellants' specification at FIGS. 2-7 and page 4, lines 4-23. The detensioning member 31, 32 has a second coefficient of thermal expansion such that attachment points 33 are drawn toward each other during thermal cycling of said mask frame assembly 11. See Appellants' specification at page 4, lines 12-21.

Kume et al. does not describe or suggest a tension mask frame assembly for a CRT including a substantially rectangular mask support frame having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other where the mask support frame has a pair of opposing long sides extending in parallel to the major axis and a pair of opposing short sides extending in parallel to the minor axis each sides having an outer peripheral surface and an inner peripheral surface wherein a tension mask

is supported between a pair of support blade members where the support blade members are attached to the frame at attachment points along a respective one of the pair of opposing long sides and a detensioning member is fixed along one of the outer and inner peripheral surfaces of on of the pair of opposing long sides and the pair of opposing short sides, the detensioning member having a second coefficient of thermal expansion such that the attachment points are drawn toward each other during thermal cycling of said mask frame assembly. Rather, Kume et al. only describes a grid apparatus for a color cathode ray tube having a frame with support members, wherein metallic members are attached to the underside of support members and have a higher coefficient of thermal expansion than that of the support members. Therefore, Appellants' claims 1, 3 and 6-8 are not anticipated by Kume et al. All claims argued within this section will stand or fall together.

3. Rejection of claims 1-2 and 6-13 under 35 U. S. C. § 102(b) as anticipated by Ragland (U. S. 5,932,957).

Claims 1-2 and 6-8

Ragland discloses a detensioning rod assembly 60 for a color cathode ray tube. See Ragland at FIG. 3 and column 3, lines 8-16. The detensioning rod assembly 60 is attached to and between legs 62, 64 of U-shaped frame members 40, 42. See Ragland at FIG. 3 and column 3, lines 21-30.

In Appellants' claims 1-2 and 6-8 a tension mask frame assembly 10 for a cathode ray tube (CRT) 1 is described. See Appellants' specification at FIG. 1 and page 1, lines 7-8. The tension mask frame assembly 10 includes a substantially rectangular mask support frame 20 having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other. See Appellants' specification at FIG. 2 and page 3, lines 20-25. The mask support frame 20 has a pair of opposing long sides 22, 24

extending in parallel to the major axis and a pair of opposing short sides 26, 28 extending in parallel to the minor axis each of the long sides 22, 24 and the short sides 26, 28 having an outer peripheral surface 23, 29 and an inner peripheral surface 25, 27. See Appellants' specification at FIG. 2 and page 3, lines 25-27. A tension mask 30 is supported between a pair of support blade members 40. See Appellants' specification at FIG. 2 and page 3, lines 28-32. The support blade members 40 are attached to the frame 20 at attachment points 33 along a respective one of the pair of opposing long sides 22, 24. See Appellants' specification at FIGS. 3-7 and page 3, lines 31-33. A detensioning member 31, 32 is fixed along one of the outer 23, 29 and inner 25, 27 peripheral surfaces of one of the pair of opposing long sides 22, 24 and the pair of opposing short sides 26, 28. See Appellants' specification at FIGS. 2-7 and page 4, lines 4-23. The detensioning member 31, 32 has a second coefficient of thermal expansion such that attachment points 33 are drawn toward each other during thermal cycling of said mask frame assembly 11. See Appellants' specification at page 4, lines 12-21.

Ragland does not describe or suggest a tension mask frame assembly for a CRT including a substantially rectangular mask support frame having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other where the mask support frame has a pair of opposing long sides extending in parallel to the major axis and a pair of opposing short sides extending in parallel to the minor axis each sides having an outer peripheral surface and an inner peripheral surface wherein a tension mask is supported between a pair of support blade members where the support blade members are attached to the frame at attachment points along a respective one of the pair of opposing long sides and a detensioning member is fixed along one of the outer and inner peripheral surfaces of on of the pair of opposing long sides and the pair of opposing short sides, the detensioning member having a second coefficient of thermal expansion such that the attachment points are drawn toward each other during thermal cycling of said mask frame assembly. Rather,

Ragland describes a completely different arrangement in which a detensioning rod assembly for a color cathode ray tube is attached to and between legs of U-shaped members. Therefore, Appellants' claims 1-2 and 6-8 are not anticipated by Ragland. All claims argued within this section will stand or fall together.

Claims 9-13

Ragland discloses a detensioning rod assembly 60 for a color cathode ray tube. See Ragland at FIG. 3 and column 3, lines 8-16. The detensioning rod assembly 60 is attached to and between legs 62, 64 of U-shaped frame members 40, 42. See Ragland at FIG. 3 and column 3, lines 21-30.

In Appellants' claims 9-13 a cathode ray tube (CRT) 1 is described. See Appellants' specification at FIG. 1 and page 1, lines 7-8. The CRT 10 includes a glass envelope 2, an electron gun 13 and a tension mask frame assembly 10. See Appellants' specification at FIG. 1 and page 3, lines 2-15. The glass envelope 2 has a rectangular faceplate panel 3 and a tubular neck 4 extending from the rectangular faceplate 3 through a funnel 5. See Appellants' specification at FIG. 1 and page 3, lines 2-4. The electron gun 13 is centrally mounted within the tubular neck 4 for generating and directing electron beams toward a phosphor screen 12. See Appellants' specification at FIG. 1 and page 3, lines 11-15. The tension mask frame assembly 10 includes a substantially rectangular mask support frame 20 having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other. See Appellants' specification at FIG. 2 and page 3, lines 20-25. The mask support frame 20 has a pair of opposing long sides 22, 24 extending in parallel to the major axis and a pair of opposing short sides 26, 28 extending in parallel to the minor axis each of the long sides 22, 24 and the short sides 26, 28 having an outer peripheral surface 23, 29 and an inner peripheral surface 25, 27. See Appellants' specification at FIG. 2 and page 3, lines 25-27. A tension mask 30 is supported between a pair of support blade members 40. See Appellants'

specification at FIG. 2 and page 3, lines 28-32. The support blade members 40 are attached to the frame 20 at attachment points 33 along a respective one of the pair of opposing long sides 22, 24. See Appellants' specification at FIGS. 3-7 and page 3, lines 31-33. A detensioning member 31, 32 is fixed along one of the outer 23, 29 and inner 25, 27 peripheral surfaces of one of the pair of opposing long sides 22, 24 and the pair of opposing short sides 26, 28. See Appellants' specification at FIGS. 2-7 and page 4, lines 4-23. The detensioning member 31, 32 has a second coefficient of thermal expansion such that attachment points 33 are drawn toward each other during thermal cycling of said mask frame assembly 11. See Appellants' specification at page 4, lines 12-21.

Ragland does not describe or suggest a CRT including a substantially rectangular mask support frame having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other where the mask support frame has a pair of opposing long sides extending in parallel to the major axis and a pair of opposing short sides extending in parallel to the minor axis each sides having an outer peripheral surface and an inner peripheral surface wherein a tension mask is supported between a pair of support blade members where the support blade members are attached to the frame at attachment points along a respective one of the pair of opposing long sides and a detensioning member is fixed along one of the outer and inner peripheral surfaces of on of the pair of opposing long sides and the pair of opposing short sides, the detensioning member having a second coefficient of thermal expansion such that the attachment points are drawn toward each other during thermal cycling of said mask frame assembly. Rather, Ragland describes a completely different arrangement in which a detensioning rod assembly for a color cathode ray tube is attached to and between legs of U-shaped members. Therefore, Appellants' claims 9-13 are not anticipated by Ragland. All claims argued within this section will stand or fall together.

4. Rejection of claims 4-5 under 35 U. S. C. § 102(e) as anticipated by Van Der Wilk (U. S. 6,686,684).

Claims 4-5

Van Der Wilk discloses a tension mask and frame. See Van Der Wilk at column 1, lines 8-10. The mask frame has a mask frame 9 positioned on metal strips 11, 12. See Van Der Wilk at FIG. 4 and column 3, line 60 to column 4, line 11. The mask frame and strips 11, 12 have different coefficients of thermal expansion. See Van Der Wilk at column 4, lines 5-9.

In Appellants' claims 4-5 a cathode ray tube (CRT) 1 having a tension mask 30 and frame assembly 10 is described. See Appellants' specification at FIG. 1 and page 1, lines 7-8. The tension mask 30 is mounted in tension on a substantially rectangular frame 20 having a first coefficient of thermal expansion. See Appellants' specification at FIG. 2 and page 3, lines 20-25. The frame 20 has a pair of opposing long sides 22, 24 and a pair of opposing short sides 26, 28 disposed at a right angle with respect to one another with each of said sides connected to from a continuous generally planar frame having an outer peripheral surface 23, 29 and an inner peripheral surface 25, 27. See Appellants' specification at FIG. 2 and page 3, lines 25-27. Detensioning members 31, 32 are fixed along the peripheral surfaces 23, 25, 27, 29 of the sides 22, 24, 26, 28. See Appellants' specification at FIGS. 2-7 and page 4, lines 4-23. The detensioning members 31, 32 have a second coefficient of thermal expansion that is one of greater than the first coefficient of thermal expansion and lower than the first coefficient of thermal expansion. See Appellants' specification at page 4, lines 12-30.

Van Der Wilk does not describe or suggest a tension mask frame assembly for a CRT including a substantially rectangular mask support frame having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other where the mask support

frame has a pair of opposing long sides extending in parallel to the major axis and a pair of opposing short sides extending in parallel to the minor axis each sides having an outer peripheral surface and an inner peripheral surface wherein a tension mask is supported between a pair of support blade members where the support blade members are attached to the frame at attachment points along a respective one of the pair of opposing long sides and detensioning members are fixed along peripheral surfaces of the sides of the frame, the detensioning member having a second coefficient of thermal expansion that is one of greater than the first coefficient of thermal expansion and lower than the first coefficient of thermal expansion. Rather, Van Der Wilk only describes a mask frame positioned on metal strips where the mask frame and strips have different coefficients of thermal expansion. Therefore, Appellants' claims 4-5 are not anticipated by Van Der Wilk. All claims argued within this section will stand or fall together.

5. Rejection of claims 9-13 under 35 U. S. C. § 103(a) over Kume et al. (U. S. 5,111,107) in view of Ragland (U. S. 5,932,957).

Claims 9-13

Kume et al. discloses a grid apparatus for a color cathode ray tube. See Kume et al. at column 1, lines 8-10. The grid apparatus has a frame 5 with support members 3, 4. See Kume et al. at FIG. 2 and column 2, lines 45-57. Metallic members 9 are attached to the underside of support members 3, 4 and have a higher coefficient of thermal expansion than that of the support members 3, 4. See Kume et al. at FIG. 2 and column 2, lines 56-64.
Ragland discloses a detensioning rod assembly 60 for a color cathode ray tube. See Ragland at FIG. 3 and column 3, lines 8-16. The detensioning rod assembly 60 is attached to and between legs 62, 64 of U-shaped frame members 40, 42. See Ragland at FIG. 3 and column 3, lines 21-30.

In Appellants' claims 9-13 a cathode ray tube (CRT) 1 is described. See Appellants' specification at FIG. 1 and page 1, lines 7-8. The CRT 10 includes a glass envelope 2, an electron gun 13 and a tension mask frame assembly 10. See Appellants' specification at FIG. 1 and page 3, lines 2-15. The glass envelope 2 has a rectangular faceplate panel 3 and a tubular neck 4 extending from the rectangular faceplate 3 through a funnel 5. See Appellants' specification at FIG. 1 and page 3, lines 2-4. The electron gun 13 is centrally mounted within the tubular neck 4 for generating and directing electron beams toward a phosphor screen 12. See Appellants' specification at FIG. 1 and page 3, lines 11-15. The tension mask frame assembly 10 includes a substantially rectangular mask support frame 20 having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other. See Appellants' specification at FIG. 2 and page 3, lines 20-25. The mask support frame 20 has a pair of opposing long sides 22, 24 extending in parallel to the major axis and a pair of opposing short sides 26, 28 extending in parallel to the minor axis each of the long sides 22, 24 and the short sides 26, 28 having an outer peripheral surface 23, 29 and an inner peripheral surface 25, 27. See Appellants' specification at FIG. 2 and page 3, lines 25-27. A tension mask 30 is supported between a pair of support blade members 40. See Appellants' specification at FIG. 2 and page 3, lines 28-32. The support blade members 40 are attached to the frame 20 at attachment points 33 along a respective one of the pair of opposing long sides 22, 24. See Appellants' specification at FIGS. 3-7 and page 3, lines 31-33. A detensioning member 31, 32 is fixed along one of the outer 23, 29 and inner 25, 27 peripheral surfaces of one of the pair of opposing long sides 22, 24 and the pair of opposing short sides 26, 28. See Appellants' specification at FIGS. 2-7 and page 4, lines 4-23. The detensioning member 31, 32 has a second coefficient of thermal expansion such that attachment points 33 are drawn toward each other during thermal cycling of said mask frame assembly 11. See Appellants' specification at page 4, lines 12-21.

Kume et al. does not describe or suggest a CRT including a substantially rectangular mask support frame having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other where the mask support frame has a pair of opposing long sides extending in parallel to the major axis and a pair of opposing short sides extending in parallel to the minor axis each sides having an outer peripheral surface and an inner peripheral surface wherein a tension mask is supported between a pair of support blade members where the support blade members are attached to the frame at attachment points along a respective one of the pair of opposing long sides and a detensioning member is fixed along one of the outer and inner peripheral surfaces of on of the pair of opposing long sides and the pair of opposing short sides, the detensioning member having a second coefficient of thermal expansion such that the attachment points are drawn toward each other during thermal cycling of said mask frame assembly. Rather, Kume et al. only describes a grid apparatus for a color cathode ray tube having a frame with support members, wherein metallic members are attached to the underside of support members and have a higher coefficient of thermal expansion than that of the support members. Therefore, Appellants' claims 9-13 are not anticipated by Kume et al.

Ragland discloses a detensioning rod assembly 60 for a color cathode ray tube. See Ragland at FIG. 3 and column 3, lines 8-16. The detensioning rod assembly 60 is attached to and between legs 62, 64 of U-shaped frame members 40, 42. See Ragland at FIG. 3 and column 3, lines 21-30.

Ragland does not describe or suggest a CRT including a substantially rectangular mask support frame having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other where the mask support frame has a pair of opposing long sides extending in parallel to the major axis and a pair of opposing short sides extending in parallel to the minor axis each sides having an outer peripheral surface and an inner peripheral surface wherein a tension mask is supported between a pair of

support blade members where the support blade members are attached to the frame at attachment points along a respective one of the pair of opposing long sides and a detensioning member is fixed along one of the outer and inner peripheral surfaces of on of the pair of opposing long sides and the pair of opposing short sides, the detensioning member having a second coefficient of thermal expansion such that the attachment points are drawn toward each other during thermal cycling of said mask frame assembly. Rather, Ragland describes a completely different arrangement in which a detensioning rod assembly for a color cathode ray tube is attached to and between legs of U-shaped members. Therefore, Appellants' claims 9-13 are not anticipated by Ragland.

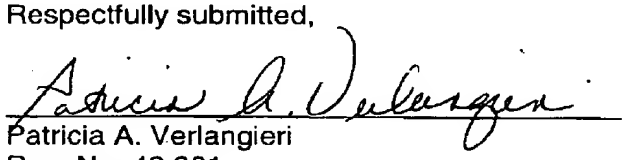
Furthermore, since Kume et al. only describes a grid apparatus for a color cathode ray tube having a frame with support members, wherein metallic members are attached to the underside of support members and have a higher coefficient of thermal expansion than that of the support members and Ragland only describes an arrangement in which a detensioning rod assembly for a color cathode ray tube is attached to and between legs of U-shaped members, the combination of these references does not describe Appellants' arrangement recited in claims 9-13. In particular, claims 9-13 recite a CRT including a substantially rectangular mask support frame having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other where the mask support frame has a pair of opposing long sides extending in parallel to the major axis and a pair of opposing short sides extending in parallel to the minor axis each sides having an outer peripheral surface and an inner peripheral surface wherein a tension mask is supported between a pair of support blade members where the support blade members are attached to the frame at attachment points along a respective one of the pair of opposing long sides and a detensioning member is fixed along one of the outer and inner peripheral surfaces of on of the pair of opposing long sides and the pair of opposing short sides, the detensioning member having a second

coefficient of thermal expansion such that the attachment points are drawn toward each other during thermal cycling of said mask frame assembly. Thus, claims 9-13 are patentable over Kume et al. in view of Ragland. All claims argued within this section stand or fall together.

## 8. CONCLUSION

In view of the above, Appellants' respectfully request that the Examiners' rejection of claims 1-13 be reversed. Favorable action is respectfully requested.

Respectfully submitted,



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May 2, 2006

Attachments
Appendix A - Claims 1-13
Appendix B - Evidence
Appendix C - Related Proceedings

## APPENDIX A - APPEALED CLAIMS

1. A tension mask frame assembly for a CRT comprising:

a substantially rectangular mask support frame having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other, said frame having a pair of opposing long sides extending in parallel to the major axis and a pair of opposing short sides extending in parallel to the minor axis each sides having an outer peripheral surface and an inner peripheral surface;

a tension mask supported between a pair of support blade members, the support blade members each being attached to said frame at an attachment point along a respective one of the pair of said opposing long sides; and

a detensioning member fixed along one of the outer and inner peripheral surfaces of one of the pair of opposing long sides and the pair of opposing short sides and having a second coefficient of thermal expansion whereby said attachment points are drawn toward each other during thermal cycling of said mask frame assembly.

2. A tension mask support frame assembly of claim 1 wherein said second coefficient of thermal expansion is lower than said first coefficient of thermal expansion.

3. A tension mask support frame assembly of claim 1 wherein said second coefficient of thermal expansion is higher than said first coefficient of thermal expansion.

4. In a cathode ray tube having a tension mask and frame assembly comprising:

a mask mounted in tension on a substantially rectangular frame, said frame having a first coefficient of thermal expansion and including a pair of opposing long sides and short sides disposed at generally a right angle with respect to the long sides with each of said sides connected to form a continuous generally planar frame having an inner and outer peripheral surface; and

detensioning members fixed along the peripheral surfaces of said sides and having a second coefficient of thermal expansion wherein said second coefficient of thermal expansion of said detensioning members is one of greater than said first coefficient of thermal expansion and lower than said first coefficient of thermal expansion.

5. The cathode ray tube of claim 4 wherein said frame includes a pair of support blade members, each of the support blade members having at least one generally central attachment point for attaching each of said support blade members to a pair of said opposing sides of said frame.

6. A tension mask support frame assembly of claim 1 wherein said opposing long and short sides lie in a frame plane.

7. The tension mask support frame assembly of claim 6 wherein the peripheral surface along which the detensioning member is fixed lies generally orthogonal to the frame plane.

8. The tension mask frame assembly of claim 7 wherein said frame includes a pair of support blade members, each support blade member having at least one generally central attachment point for attaching each of said support blade members to a pair of said opposing sides of said frame.

9. A cathode ray tube comprising:

a glass envelope having a rectangular faceplate panel and a tubular neck extending from the rectangular faceplate panel through a funnel;

an electron gun centrally mounted within the tubular neck for generating and directing electron beams toward the phosphor screen; and,

a tension mask frame assembly mounted between the electron gun and the faceplate panel; the tension mask frame assembly having a substantially rectangular mask support frame formed of a pair of opposing long sides extending parallel to a major axis and a pair of opposing short sides connected between the long sides and extending parallel to a minor axis to form a planar rectangular mask support frame, a tension mask supported on said frame between a pair of mounting locations, each being located on one of said opposing sides, and, a detensioning member being fixed along a peripheral surface of at least one of said sides, said detensioning member having a coefficient of thermal expansion which is different from the coefficient of thermal expansion of the frame whereby said mounting locations are drawn toward each other during thermal cycling of said mask frame assembly.

10. The cathode ray tube of claim 9 further comprising a pair of support blade members being mounted to said tension mask frame assembly at said mounting locations.

11. The cathode ray tube of claim 10 wherein said tension mask is fixed to said support blade members.

12. The cathode ray tube of claim 9 wherein the opposing long and short sides lie in a common plane.

13. The cathode ray tube of claim 12 wherein said detensioning member is fixed along a peripheral surface of one of said sides which is generally orthogonal to the common plane.

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## APPENDIX B - EVIDENCE

Not applicable.

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## APPENDIX C - RELATED PROCEEDINGS

Not applicable.